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Smart Cordless Vacuum Pump

User Manual

ALL IN AI

Disclaimer

Attention: Please read and follow the instructions in the user manual carefully before operation.

- Please wear protective equipment such as goggles and masks when using, and maintain ventilation in the environment.
- Special vacuum pump oil must be used, as other lubricants may cause equipment damage.
- When the product is in operation, the exhaust port must be opened and the intake port must not be covered.
- The air inlet shall operate continuously with the Atm open for no more than 3 minutes.
- Do not directly contact the refrigerant to prevent personal injury.
- Avoid using this product by people with limited mobility and minors.

Warning Sign

Sign	Name	Content
	Check the oil level	Add specialized oil before initial use and keep the oil level between the upper and lower limits.
	Wear goggles	Please wear goggles and a mask when working with or in contact with refrigerants. Avoid direct contact with refrigerant to prevent injury.
	Be careful of high temperature burns	The surface of the equipment may be hot, and it is forbidden to touch the running pump body or motor.
	Danger! High Voltage	IPay attention to the dangers of electric shock and short circuit, carefully read the instructions for use, and confirm that the equipment is correctly connected before powering on.
	Caution!	Ensure good ventilation in the work area and keep away from flammable and explosive materials.

Product Features

Thank you for choosing Electric's Smart Cordless Vacuum Pump.

This product is a bipolar rotary vane vacuum pump ,driven by a brushless motor and powered by a lithium battery. The product has innovative design, rich functions, and intelligence, making it an advanced, efficient, and energy, saving vacuum pump product. It can help you easily and conveniently complete the vacuuming work.

SVP-D500 (Cordless Vacuum Pump) Product Features

- Intelligent lithium battery products.
- Bipolar rotary blade driven by brushless variable frequency motor.
- Built in fully automatic ball valve and intelligent speed control module.
- Support remote control through APP mobile client.
- Support SVP-R500 Bluetooth controller for remote wireless control.

SVP-R500 (Bluetooth Controller) Product Features

- Built in five working modes to control the lithium battery pump SVP-D500 product,suitable for multiple scenarios.
- Support remote upgrade and automatic timing of APP mobile client.
- There are two operation modes: touch and shuttle knob buttons, which are precise and convenient.
- Support real-time vacuum curve generation, efficient and intuitive.
- System logging, task, alarm, and event recording.

Technical parameter

Vacuum Pump

Model	**SVP-D500**
Stage	2 Stages
Rated power supply	18V DC
Pumping rate	1 L/s / 2 CFM
Extreme pressure	2Pa / 15 Microns
Motor power	180W / 1/4 Hp
Motor type	Brushless motor
Speed regulation	1000-3500 RPM
Fuel Volume	260 mL
Usage environment	5°C ~ 40°C / 41°F ~ 104°F
Wireless distance	30 m
Built in vacuum gauge	1000–65000 Pa ±5%
External dimensions	325*117*166 mm
Weight	4.7 Kg
Air Inlet	1/4 SAE

Bluetooth controller

Model	**SVP-R500**
Power Supply	5V DC
Display	320 * 240 color
Control mode	Touch/rotary button
Battery life	24 h
Wireless mode	Bluetooth

Power Battery

Model	**MT-BL 1850**
Battery parameters	18V 5AH
Discharge capability	2.5 C

Main accessories of the product

1 Product handle	7 Power switch
2 SVP-R500 Bluetooth controller	8 Air intake/intake cap
3 Exhaust port/accumulator/refueling port	9 SVP-D500 Cordless Vacuum Pump
4 Oil window	10 Lithium battery
5 Oil drain screw	11 Knob button
6 Battery installation compartment	12 USB Type-C charging port

Vacuum Pump Usage and Operation Guide

Preparation before use

1 .Check battery level: Press the battery button to ensure that the battery level is at least 20% (Figure: 1).

2 .Place the product on a sturdy horizontal tabletop or floor.

3 .Refueling operation: Add vacuum oil to the middle of the two oil level lines MIN and MAX (Figure: 2).

Tip:

Slowly add vacuum oil, and quickly adding oil may cause overflow or the oil level to exceed MAX.

Battery indicator light: 1 grid 25%, 2 grids 50%, 3 grids 75%, 4 grids 100%.

Figure 1

Figure 2

Operation Guide

1 **.Connecting pipeline:** Remove the intake cap, connect and tighten the vacuum pipeline (1/4 SAE) to check whether the pipeline seal is reliable and there should be no leakage. Figure: 3.

2 **.Start the device:** Install the lithium battery, press the power button to start working, open the vacuum pipeline inlet valve, and perform vacuuming. Diagram: 4,5.

3 **.Turn off the device:** Press the power switch again to turn off the vacuum pump.

4 **.End of work:** Remove the battery, close and remove the pipeline valves, tighten the intake cap as shown in Figure 3.

Tip:

Power button: Short press (power on/off) / Long press (power off) .

Figure 3

Figure 4

Figure 5

Bluetooth controller operation guide

Main interface

1 **.Time and status:** Time information, flashing during product operation.

2 **.Top status bar:** Product model, Battery level OTA 、Bluetooth, Screen battery level.

3 **.Icon area:** Gauge, Curve ,Config,system.

4 **.Warning status:** Alarm prompt information.

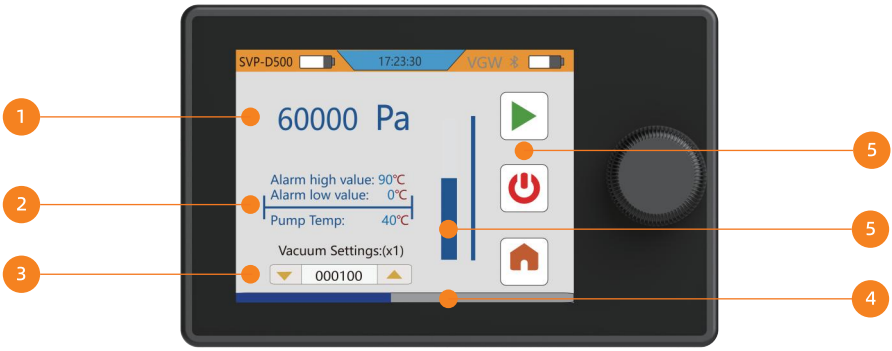
5 **.Start button:** "e" interface, stop button.

Tip:

Shutdown: This interface focuses on the stop button. Press and hold the knob button for 3 seconds to turn off the product.

Knob button operation: Rotate left and right: Switch focus, press: Confirm

Gauge interface



1 **.Vacuum display:** Display the real-time vacuum of the system.

2 **.Temperature display:** upper/lower limit alarm temperature, real-time temperature value.

3 **.Vacuum setting:** Set the target vacuum value for the work, with a default value of 0.

4 **.Task progress bar:** Intelligent mode task progress bar.

5 **.Vacuum progress bar:** Simulate mercury vacuum gauge.

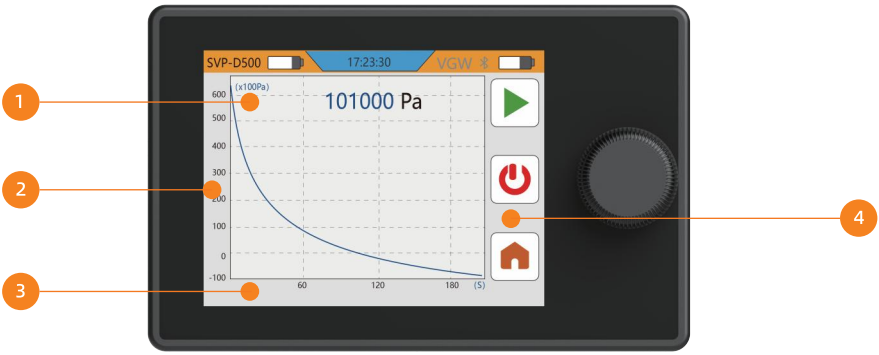
6 **.Icon buttons:** start, stop, return to homepage.

Tip:

Knob button operation: Rotate left and right to switch focus, press to confirm.

After selecting the vacuum setting: Left rotation: increases the value, right rotation: decreases the value, press: confirm.

Gurve interface



1 **.Display Area:** Vacuum Curve/Vacuum Value.

2 **.Vertical axis:** Vacuum degree.

3 **.Horizontal axis:** Time.

4 **.Icon buttons:** start, stop, return to homepage.

Config interface

1 .Unit selection: Micron, Pa, Torr, inHg, mTorr, KPa, mBar.

2 .Speed setting area: Users can adjust the current mode startup speed.

3 **.Mode selection**

● **Select Normal/Normal mode:**

By default, all settings are set to 0 and will fail. The device can be manually turned on or off, or run until the battery runs out and automatically shut down.

● **Select Vacuum/Vacuum mode:**

Manually turn on and off the machine, or run it until the vacuum value meets the vacuum setting value, and then maintain the HOLD setting value for a period of time before automatically shutting down.

● **Select Hold/Hold mode:**

Manually turn on and off the machine, or run it until the vacuum value meets the vacuum setting value, and then maintain the HOLD setting value for a period of time before automatically shutting down.

● **Select Auto/Auto mode:**

Manually turn on/off the machine, or the user can set the A/C (P) parameter in AUTO, and the system will automatically match the other parameter settings. After the work is completed, the machine will automatically shut down.

● **Select User/User Mode:**

Users can set parameters as needed, and the product runs according to the set parameters.

Tip:

Automatically save after changing parameter settings. Please refer to the "e" interface to restore factory settings.

System interface

1 **.Running time:** The cumulative usage time of the vacuum pump motor, measured in hours.

2 **.APP QR code:** Scan the QR code to obtain the APP client.

3 **.Peripheral devices:** default turned off, can be connected to our Mini vacuum gauge after being turned on, and enable high-precision measurement.

4 **.Alarm prompt:** It is turned off by default and needs to be manually turned on.

5 **.Record switch:** default off, can turn on and off recording.

6 **.Language switching:** System language switching.

"e" interface

1 **.Event records:** Event records during product operation, including types such as tasks, alarms, and faults.

2 **.Time setting:** Set the local time of the product.

3 **.HOME button:** Return to the main interface.

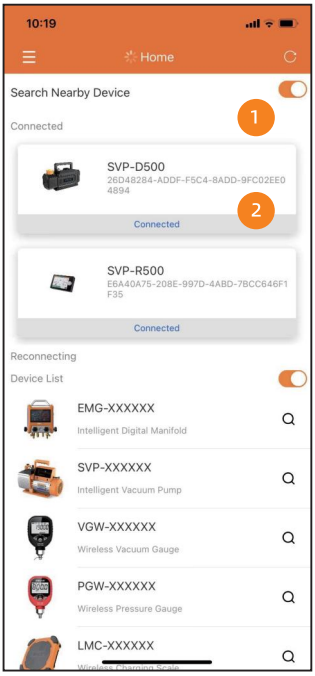
Tip:

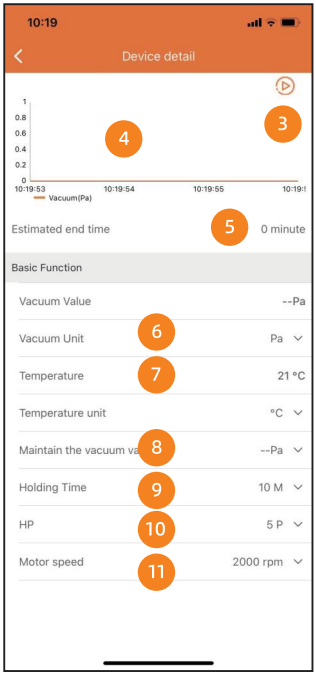
Set the time to 15:14:xx on 12 21, 2012. Click the HOME button and wait for the time to jump to the local time before operation. After shutting down and restarting, the system will be restored to factory settings.

Introduction to APP Client

APP icon/QR code (supports: Android, iOS)

Add device interface, vacuum pump control interface, handle OTA interface





① Search for devices	⑦ Real time temperature
② Add devices	⑧ VACUUM settings
③ Turn on or off vacuum pump	⑨ HOLD settings
④ Vacuum curve	⑩ AUTO settings
⑤ Estimated time	⑪ Speed settings
⑥ Unit settings	⑫ OTA upgrade prompt

For more operations, please refer to the detailed instructions on the APP client.

Maintenance and upkeep

After use

1 .Close the valve connecting the vacuum pump to the external pipeline.
2 .Remove the lithium battery and dismantle the connecting pipe.
3 .Tighten the intake cap to prevent particles from entering the pump chamber.
4 .Check the battery level.
5 .Properly store the product.

Matters needing attention

1 .Keep the oil level between the MIN and MAX lines. If the oil level is too low, it will affect performance, while if it is too high, it will cause oil mist to spray out. When the initial pressure approaches atmospheric pressure, oil mist will overflow, which is a normal phenomenon. After the vacuum value decreases, the oil mist decreases until it disappears. Regularly observe the oil level in the oil window to avoid running low on oil.

2 .Keep the vacuum pump clean and prevent pollutants from entering during use and storage to avoid affecting the service life of the vacuum pump and the normal operation of the system.

3 .When not in use for a long time, oil should be drained and stored in a dry and clean environment.

4 .The diameter of the connecting pipe cannot be smaller than the inner diameter of the vacuum pump inlet, otherwise it will affect the pumping speed.

5 .Pay attention to the sealing of the pipeline connection to prevent leakage. Before connection, apply an appropriate amount of vacuum grease on the joint and tighten it with a clamp to improve the sealing.

6 .Vacuum pumps cannot be used for extracting liquids, gases with high oxygen content, flammable, explosive, and corrosive gases, and should not inhale gases containing large amounts of water vapor.

7 .Before connecting the vacuum pump to the system, please use a reliable method to extract the refrigerant from the system. Using a vacuum pump under high system pressure can damage the pump body.

Method for replacing vacuum oil

1 .Before changing the oil, run the vacuum pump for 3-5 minutes to ensure that it is in a hot state so that the pump oil flows out.

2 .When the pump is running, open the air inlet and communicate with the atmosphere at the same time. After the pump is turned off, remove the battery and open the oil drain screw. Do not start the machine during oil change. Open the exhaust cap of the trap to accelerate oil discharge (Figure: 6).

3 .Tilt the pump body to thoroughly discharge residual waste oil, tighten the oil drain screw, and properly dispose of the waste oil.

4 .Open the trap and add new pump oil (Figure: 7).

5 .Cover the intake cap, install the battery and start the pump. After running for one minute, check the oil level. If the oil level is below the lower limit of the oil level line, slowly add oil to the normal level, and finally turn on the trap (Figure: 8).

Figure 6

Figure 7

Figure 8

Method for replacing vacuum oil

1. Correct charging method

- Use the original charger for charging, ensuring that there are no flammable materials around.
- Before charging, check that the battery and charger are connected properly to avoid damaging them.
- Avoid charging in high temperature, low temperature, flammable and explosive environments. The optimal temperature is 10 ℃ to 30 ℃.
- Reasonably use lithium batteries, avoid overcharging and overdischarging, and extend battery life.

2. Correct storage method

- Avoid long-term storage of batteries that are not fully charged to prevent over discharge.
- Before long-term storage, the battery should be charged to 50% and checked regularly to maintain a charge level between 40% and 60%.
- Lithium batteries should be stored in a dry and ventilated environment. Avoid high temperature, humidity, and flammable and explosive environments.

3. Precautions for use

- Stay away from humid environments and heat sources, avoid severe collisions or punctures, and prevent internal corrosion, short circuits, or fires.
- Avoid using at extreme temperatures, as high temperatures may cause performance degradation, while low temperatures can affect discharge efficiency.
- When the battery level is below 20%, it should be charged promptly to prevent battery damage.
- If battery leakage, expansion or abnormal heating is found, stop using immediately. And contact professionals to handle it.
- Please comply with local laws and regulations regarding the disposal of discarded batteries.

Common troubleshooting

Failure Phenomenon	Reason for malfunction	Exclusion method
Low vacuum degree	1. Insufficient oil level	Add oil between the MIN and MAX oil level lines
	2. Vacuum oil emulsification, unclean	Replace with new oil
	3. Leakage of pipeline joints	Replace the sealing ring and tighten the pipeline interface
	4. Leakage of pump connection pipeline container	Check the connecting pipeline container to prevent leakage
	5. Improper pump selection	Check the size of the container being drawn, recalculate and select the appropriate model
	6. The pump has been used for too long, and the wear of its parts has caused an increase in clearance	Check, repair or replace the pump with a new one

Oil Leakage	1. Oil seal damage	Replace the oil seal
	2. Loose fuel tank or drain screw, seal ring failure	Tighten the screws and replace the sealing ring
Fuel injection	1. Excessive oil volume	Drain the oil between the MIN and MAX oil level lines
	2. The pressure at the intake port has been consistently high for a long time	Choose a suitable pump and increase the pumping speed
Difficulty initiating	1. Low oil temperature	The air inlet is open to the atmosphere, and the motor preheating pump oil heating is repeatedly started
	2. Motor, power supply or circuit board malfunction	Check and repair, eliminate faults
	3. Foreign objects falling into the pump	Check and eliminate
	4. Low battery voltage	Check the battery level and charge it in a timely manner
	5. Motor overload protection	Check and repair, eliminate the problem of overload, and then run again

More Details

For more detailed infomation about the product details, please scar, the QR code to obtain it.
Plus de détáils sur le produit description Veuillez scanner le Code QR pcur obtenir.
Fuir weitere Produktdetails scannen Sie bitte den QR-Code, um ihn zu erhalten.
Per ulteriori dettagli sul prodotto,si prega di scansionare il codice QR per ottenerlo.
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